

CONVENTIONAL MOSFET

FIG. 1

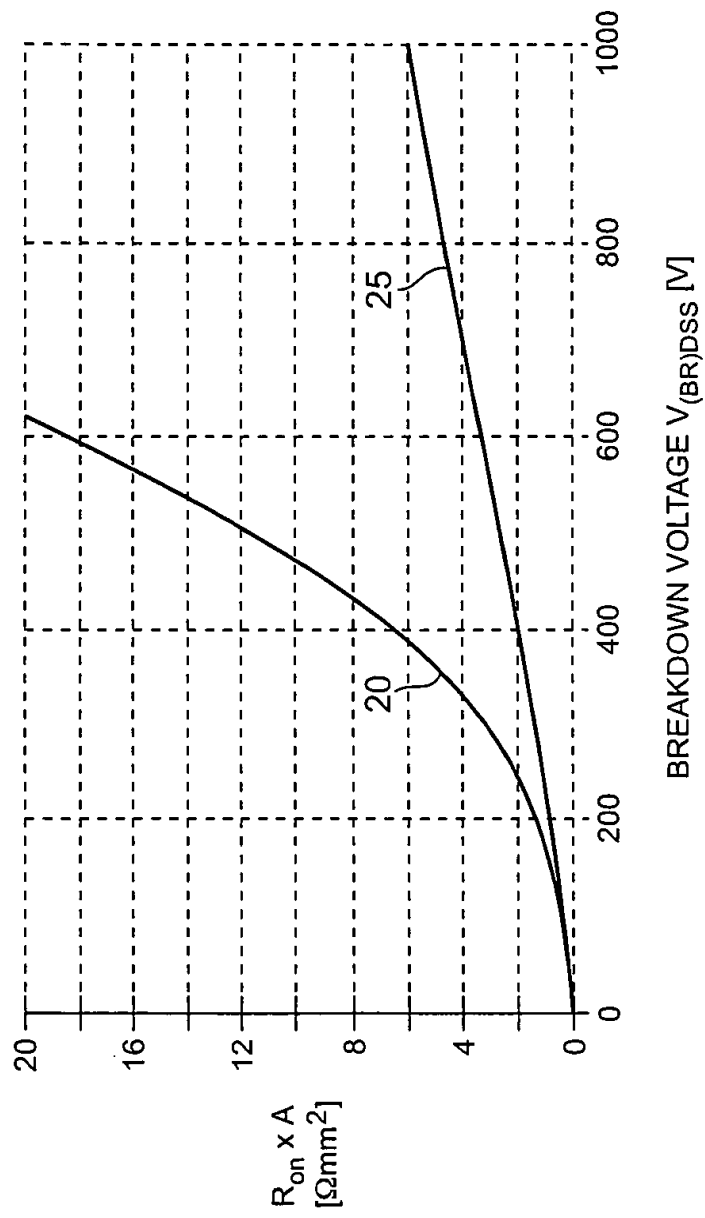
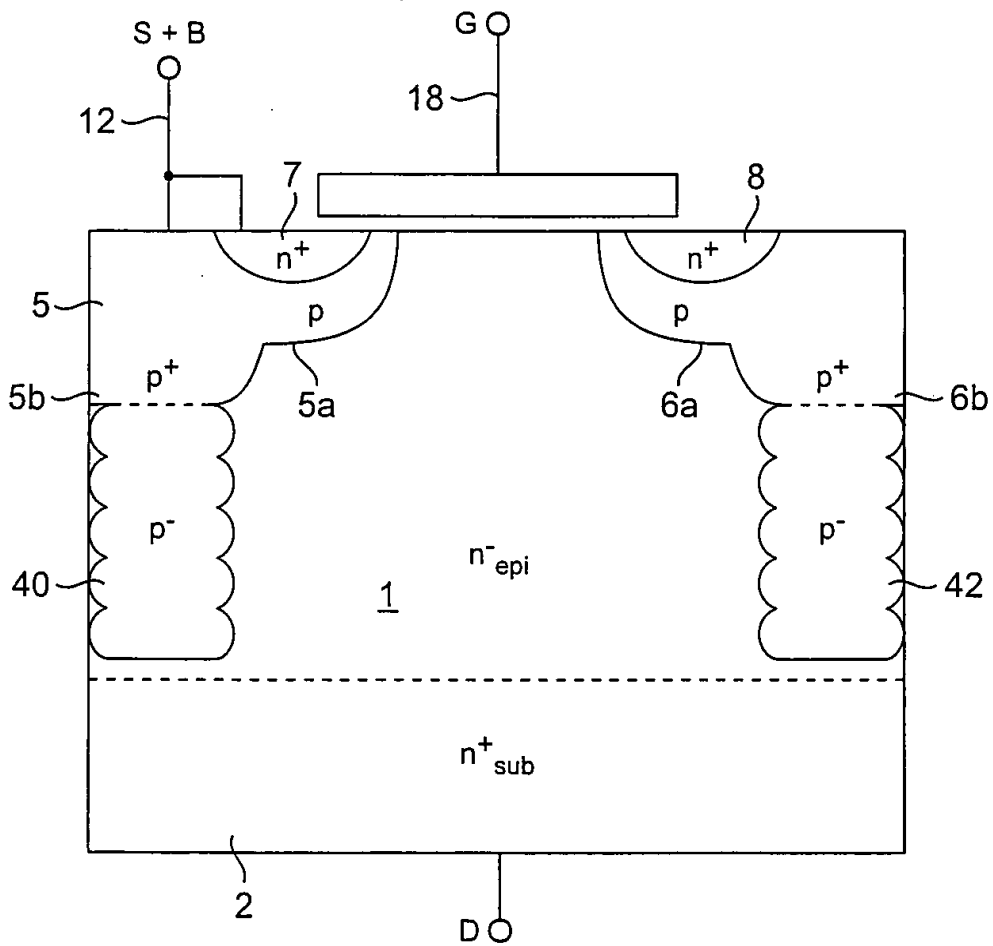


FIG. 2



THE DOPANT DISTRIBUTION OF A HIGH VOLTAGE VERTICAL
DMOS TRANSISTOR WITH A RELATIVELY LOW ON-RESISTANCE

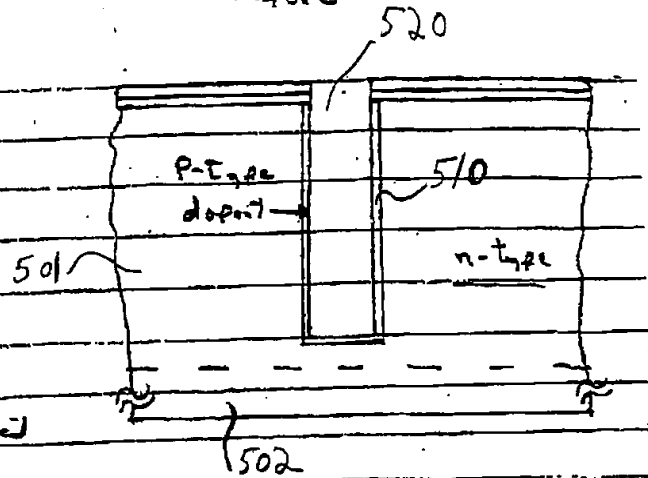
FIG. 3

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Step

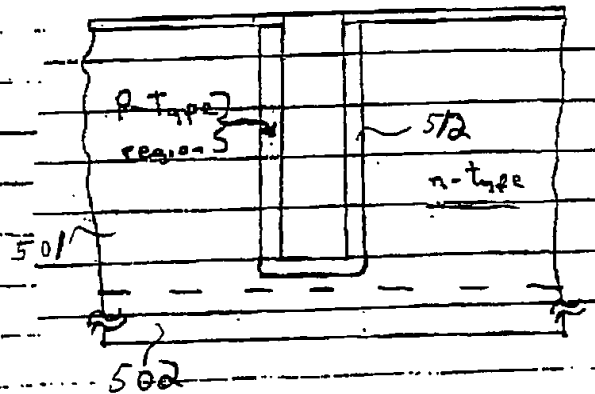
Figure

1. Grow/deposit a trench etch-stop layer.
2. Mask and etch the trench etch-stop layer.
3. Etch the trench using a gas that contains the desired dopant species.



4 a

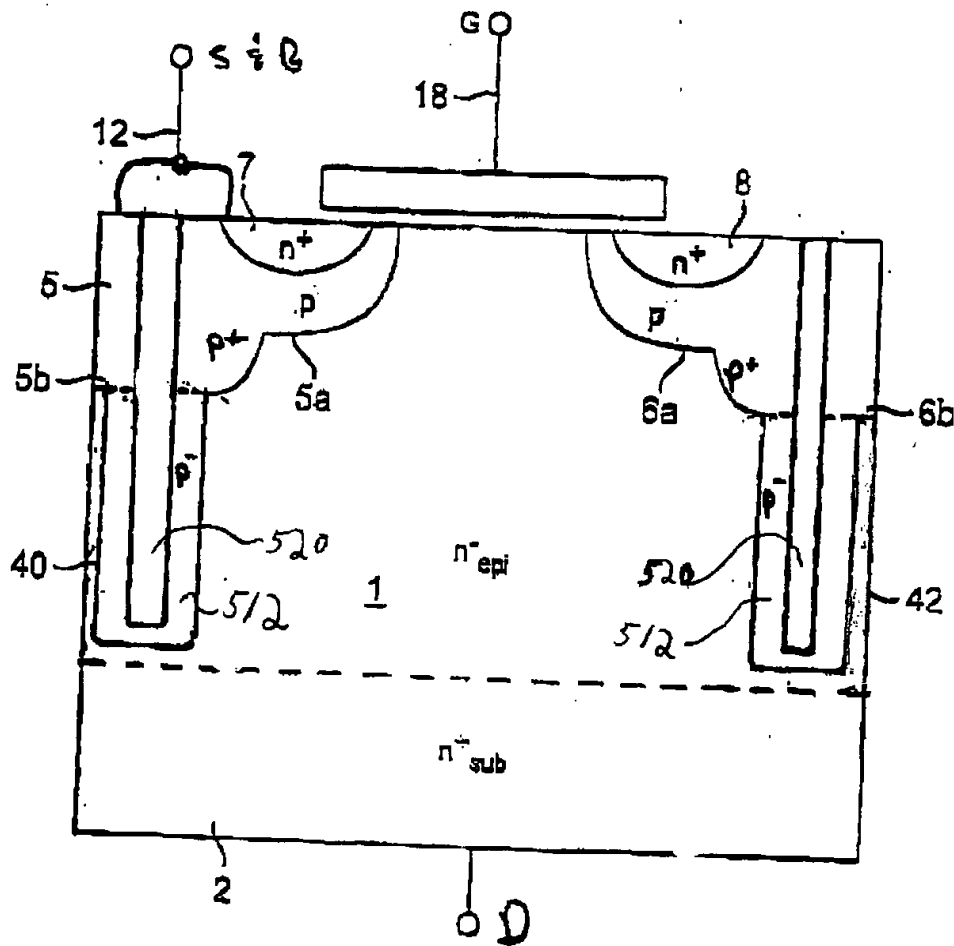
4. Fill the trench with a dielectric or a high resistivity layer.
5. Planarize.
6. Diffuse the dopant to form the desired junction.



4 b

Figure 4. The steps in the fabrication of the voltage sustaining junction.

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THE DOPANT DISTRIBUTION OF A HIGH VOLTAGE VERTICAL DMOS TRANSISTOR WITH A RELATIVELY LOW ON-RESISTANCE

FIG. 5